



UNITED STATES PATENT AND TRADEMARK OFFICE

100
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,293	08/22/2003	George D. Davis	H0001553 C1	9400

128 7590 03/25/2004

HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER

VORTMAN, ANATOLY

ART UNIT	PAPER NUMBER
	2835

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/646,293	DAVIS ET AL.
Examiner	Art Unit	
Anatoly Vortman	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 August 2003.
2a) This action is **FINAL**. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 and 20-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-13 and 20-23 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date .

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6 and 20-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1-6, claim 1 recites: “a resistance element...coupled to an output of the thermal switch on the pair of contacts”. The disclosure does not support the aforementioned arrangement. All the application’s figures depict said resistive element being coupled on a header (24) (see for example Fig. 2), but not on the contacts (which are elements (14, 16)). It is not clear in general how something can be coupled on a pair of contacts, wherein one of them (16) is movable.

Regarding claims 3-6, claim 3 recites: “a pair of mutually electrically insulated terminals” and regarding claims 20-23, claim 20 recites “the first, second and third terminal being mutually...electrically isolated”. The aforementioned limitations are not supported by the disclosure of the present application, since nowhere in disclosure a switch having the aforementioned features is disclosed. For example, Figure 15 depicts a three-terminal switch

wherein terminals (20, 22, and 142) are electrically interconnected through electrical resistances (12 and 144). Thus, those terminals are not mutually electrically isolated as required by claim 1. The same goes for the remaining two-terminal embodiments as depicted on Fig. 1-8 of the instant application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, as best understood, are rejected under 35 U.S.C. 102 (a) or (e) as being anticipated by US/5,973,587 to Hofsäss.

Regarding claim 1, Hofsäss disclosed (Fig. 1) a snap-action thermal switch having a pair of mutually isolated contacts (26, 27) structured in a normally open configuration by a thermal actuator (12); and a resistance element (46-48) integral with the snap-action thermal switch and coupled to an output of the thermal switch on a pair of contacts (26, 27).

Regarding claim 2, Hofsäss disclosed (Fig. 1) that the resistance element (46-48) and the snap-action thermal switch share a single pair of common terminals (24, 25)

Regarding claims 3 and 4, Hofsäss disclosed that the snap-action thermal switch is structured having a pair of terminals (24, 25) and the integral resistance element (46-48) is electrically coupled to provide an output on the pair of said terminals (24, 25), wherein the pair of said terminals (24, 25) is shorted together (by bridge contact (29)) when the device senses an ambient temperature higher than a predetermined set point of the snap-action thermal switch (Fig. 1).

Regarding claims 5 and 6, Hofsäss disclosed that said integral resistance (46-48) is mounted on an interior surface of the snap-action thermal switch (Fig. 2) or on an exterior surface of said switch (Fig. 1).

5. Claims 7-13 are rejected under 35 U.S.C. 102 (a) or (e) as being anticipated by US/5,936,510 to Wehl et al., (Wehl).

Regarding claims 7-10, Wehl disclosed a thermal sensor (Fig. 1 and 2), comprising: a single pole, single-throw switch having first (24) and second (18) electrical contacts coupled to respective first (22) and second (16) electrical terminals, the first contact (24) being movable relative to the second contact (18); a bimetallic actuator (14) having first and second physical states and positioned relative to the first electrical contact (24) and responsive to a sensed temperature external to the switch for spacing the first movable contact (24) away from the second contact (18) while changing said first and second physical states; and an electrical resistor (Fig. 4, elements (36, 48)) integral with said switch (Fig. 1) and electrically coupled between (i.e.

in parallel) the first and second contacts (24, 18) / terminals (22, 16) and spaced away from the actuator.

Regarding claim 11, Wehl disclosed a header (44) having said first (22) and second (16) terminals mounted therein, wherein said first (24) and second (18) electrical contacts are spaced away from the header (44).

Regarding claim 12, Wehl disclosed (Fig. 1 and 2) that electrical resistor (36, 48) is mounted on a surface of the header (44) (please note, that portion (40) of the resistor (36) is attached to the surface of the header (44) as clearly shown on Fig. 1).

Regarding claim 13, Wehl disclosed (Fig. 1 and 2) means (32) for spacing the actuator (14) away from the header (44).

6. Alternatively, claims 7-10, are rejected under 35 U.S.C. 102(b) as being anticipated by US/5,337,036 to Kuczynski.

Regarding claims 7-10, Kuczynski disclosed a thermal sensor (Fig. 9 and 24), comprising: a single pole, single-throw switch having first (18, 19) and second (12) electrical contacts coupled to respective first (12a) and second (23a) electrical terminals, the first contact (18) being movable relative to the second contact (12); a bimetallic actuator (22) having first and second physical states and positioned relative to the first electrical contact (18,19) and responsive to a sensed temperature external to the switch for spacing the first movable contact (18, 19) away from the second contact (12) while changing said first and second physical states; and an electrical resistor (310a) integral with said switch (Fig. 24) and electrically coupled

between (i.e. in parallel) (column 14, lines 29-34) the first and second contacts / terminals and spaced away from the actuator (22).

7. Claims 20-23, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by US/4,306,210 to Saur.

Regarding claim 20, Saur disclosed (Fig. 3) a three-terminal snap-action thermal switch, comprising: mutually spaced apart first (9'), second (1) and third (9'') electrical terminals mounted in a header (8) and being electrically isolated from the header (8) (header is made of insulative material); a fixed electrical contact (16) being positioned on the first terminal (9'); a movable electrical contact (27) being positioned on the second terminal (1) and being biased into electrical contact with the fixed electrical contact (16); a bimetallic actuator (26) being convertible as a function of temperature between a first state wherein an actuation portion is positioned to space the movable electrical contact (27) away from the fixed electrical contact (16) and a second state wherein the actuation portion is positioned to permit electrical contact between the movable electrical contact (27) and the fixed electrical contact (16); and an electrically resistive conductor (PTC resistor (31), column 3, line 45) coupled between the third electrical terminal (9'') and the second (1) electrical terminal and being spaced away from the actuator (26).

Regarding claims 21 and 22, Saur disclosed a housing (1) coupled to the header (8) and cooperating with the header (8) to encase the resistive conductor (31), the fixed (16), and movable (27) contacts.

Regarding claim 23, Saur disclosed that said resistive conductor (31) is external to the cooperating housing (1) and header (8), (column 4, line 45).

Response to Arguments

8. Applicant's arguments presented in Preliminary Amendment filed concurrently with the application on 08/22/03 regarding claims 20-23 have been fully considered but they are not persuasive since claims continue to read on Saur ('210) patent as shown in the rejection above. The remaining arguments are moot in view of the new grounds of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

US/5615072, 4849729, 5023744, 6020807, 3840834, 5048974, 5892429, 5757261, and 5627506 disclosed thermally responsive switches with resistive elements.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg can be reached on 571-272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AV.



Anatoly Vortman
Primary Examiner
Art Unit 2835